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1. R.L.Doan
2. M.D.Whitaker
3. J.R.Wirth
4. K.Z.Morgan
5. W.C.Johnson
6. Reading File
7. Central File

44-11-342 11/24/44

R. L. Doan

H. S. Brown

OVERFLOW OF WASTE STORAGE TANK W-11 ON NOVEMBER 21, 1944

In September of this year upon the dissolution of the Separations Development Division, the Chemistry Division assumed the responsibility for tank W-11. On Tuesday evening, November 21, 1944, tank W-11 overflowed. I submit herewith a report describing the accident.

Our official observer for tank W-11 is Sgt. R. E. Garber. When he took over the obligation, he was requested to observe the liquid level at least three times a week except when unusually large input was expected. During these periods, it was to be inspected daily. Mr. Garber is directly responsible to me.

On Saturday, November 18, the tank was emptied. On Monday, November 20, the gauge read zero. On Tuesday afternoon, November 21, the gauge again read zero but Mr. Garber noticed some fluid flowing up in the tube, an indication that essentially all fluid in the manometer was gone. Garber immediately called the 4-12 shift instrument man (name unknown) who came over to refill the manometer. He was apparently unfamiliar with the instrument and was unsuccessful in loading it with liquid. It later developed that he was attempting to load it with the wrong fluid. Mr. Garber was given the impression that the instrument man would look up the specifications on the instrument and fix it later in the evening. This was at 6:45 P. M.

Mr. Garber had dinner and returned to the 706-C Building. He asked a member of the Health-Physics Group to check on the tank should a phone call be received stating that the manometer was repaired. Mr. Garber left at 8:00 P. M. No phone call was received that evening in the 706-C Building.

Fortunately the Operations Group has made it a practice to check on the tank at frequent intervals. That evening at 11:00 P. M. a check was made by them and it could be seen that the tank was overflowing. They immediately syphoned the liquid out of the tank. The syphoning was completed at 3:00 A. M.

The next day it was found that the shoes of both Garber and the instrument man were contaminated. This would indicate that the overflow started somewhere around 6:00 P. M. of Tuesday evening. Semi-works was not operating during this period so the main liquid input to the tank was from our gas scrubbers, which have a total liquid flow of 0.3 gal/minute. If the tank started to overflow at 6:00 P. M., this would indicate that about 90 gallons left the tank. We believe that the activity is due primarily to iodine from the scrubbers. There may also be a fair amount of lanthanum in the solution.

I would ascribe the responsibility for the accident to (1) negligence on our part and (2) poor instrumentation, a situation which is also largely our own fault.

5-5-52

[redacted]

The following steps have been taken to prevent recurrence:

1. Tightening up on our procedure for inspection.
2. Replacement of the existing liquid level indicator with one of the float type such as is now used on the other waste tanks in the area.

Harrison S. Brown